TURAN, Gyorgy

Central control reading of kilowatt-hour meters. Villamossag 8 no.11:347 N '60.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy

"Lighting of the Kansas City railroad yard." Reviewed by Gyorgy Turan. Villamossag 8 no.11:347 N '60.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy

Formation of household current consumption in the United States. Villamossag 8 no.11:346-347 N '60.

1. "Villamossag" szerkesztoje.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

TURAN, Gyorgy

Some words on the necessity of using the electro-stimulator. Villamossag 9 no.12:378 D '61.

TURAN, Gyorgy

"Starting, change of revolution number, and braking of asynchronous motors" by Dr. Laszlo Kovacs. Reviewed by Gyorgy Turan. Villamossag 10 no.5:153 My '62.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy, okleveles gepeszmernok

Letter to the editor. Villamossag 10 no.6:184 Je '62.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy

"Low voltage switching devices" by Bela Medek. Reviewed by Gyorgy Turan. Villamossag 10 no.4:125 Ap '62.

TURAN, GY.

Congress of the Polish Electrotechnical Association held in Gleiwitz. p.90.

VILLAMOSSAG. Budapest, Hungary. Vol. 7, no. 3, Mar. 1959.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959
Uncl.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

TURAN, Gyorgy

Experimental stereophonic radio broadcasting in Europe. Villamossag 12 no.5:159 My '64.

1. Editor, "Villamossag."

TURAN, GY.

Installation of a multiple condenser battery in Szombathely. p.92.

VILLAMOSSAG. Budapest, Hungary. Vol. 7, no. 3, Mar. 1959

Monthly List of East European Accessions (EEAI), LC. Vol. 8, No. 9, September 1959
Uncl.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

TURAN, GY.

TURAN, GY. New possibilities for reviving victims of accidents with electricity. p. 215.

Vol. 4, No. 7, July 1956.
VILLAMOSSAG
TECHNOLOGY
Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

TURAN, GY.

More attention is needed in connecting repaired implements. p. 94.
(VILLAMOSSAG. Vol. 4, no. 3, Mar. 1956. Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 6, June 1957. Uncl.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

TURAN, GY.

TURAN, GY. Closing report of the working committee on "Coordination of Levels of Insulation." p. 217.

Vol. 4, No. 7, July 1956.
VILLAMOSSAG
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Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

TURAN, GY.

Phase correction of portal cranes.

P. 145. (Villamossag. Vol. 5, no. 4/5 July/Aug. 1957, Budapest, Hungary)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

TURAN, GY.

Equipment for phase correction made from condensers of metallic paper based on prefabricated elements.

P. 145 (Villamossag. Vol. 5, no. 4/5 July/Aug. 1957, Budapest, Hungary)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

TURAN, GY.

Application of parallel condensers in medium and high-voltage nteworks.

p. 146 (Villamossag. Vol. 5, no. 4/5 July/Aug. 1957, Budapest, Hungary)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

TURAN, GY.

TURAN, GY. Janos Endrenyi and Dezso Deveny's Erintesvedelem (Protection against Shock); a book review. p. 223.

Vol. 4, No. 7, July 1956.
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Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

TURAN, GY.

Natural power factor, p. 206, MAGYAR ENERGIAGAZDASAG, (Energiagazdalkodasi Tudomanyos Egyesulet) Budapest, Vol. 9, No. 5, May 1956

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 5, No. 11, November 1956

TURAN, Gyorgy

A highly significant step in the field of illuminating engineering: development of more economic light sources in line with the most recent achievements in colorifics. Villamossag 11 no.12:377-378 D'63.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy

"Correlation between the level of exposure and visibility." Reviewed by Gyorgy Turan. Villamossag 11 no.5:154 My '63.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy, okleveles gepeszmernok

The direct-current series system of distribution built at Ikervar in 1896. Elektrotechnika 56 no.5:215-226 My '63.

1. Orszagos Villamosenergia Felugyelet osztalyvezetoje, Budapest, I., Attila u. 99.

TURAN, Gy.

"Installation with Combined Switching, Protecting, Signaling, and Discharging for Phase-correcting Condensers", P. 124, (VILLAMOSSAG, Vol. [illegible], No. 4, April 1954, Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 4, No. 3, March 1955, Uncl.

TURAN, Gyorgy

Questions relating to the technical development and economy of phase-correction. Ujit lap 13 no.15:10 Ag '61.

1. Orszagos Villamosenergia Felugyelet osztalyvezetoje.

(Hungary—Electric power distribution)
(Electric machines)

PROCESSES AND PROPERTIES INDEX

MAGYAR TECHNIKA
HUNGARIAN ENGINEERING
1951
No. 2, Feb.

Gy. Turán:
Economy in the field of electric power

METALLURGICAL LITERATURE CLASSIFICATION

TURAN, GY.

"Utilization of Soviet experiences in the fight against electric accidents". [illegible],
(ELEKTROTECHNIKA, Vol. 16, no. 6, June 1953, Budapest, Hungary)

SO: Monthly List of East European Accessions, L.C., Vol. 2, No. 11, Nov. 1953, Uncl.

TURAN, GY.

"Remarks on Gyorgy Farago's article 'The Calculation, Maintenance, and Economy of Luminous Tube Lighting'", p. 92, (ELEKTROTECHNIKA, Vol. 46, no. 3, March 1953, Budapest, Hungary)

SO: Monthly List of East European Accessions, L.C., Vol2, No. 11, Nov. 1953, Uncl.

GELLERI, Emil.; Turan, Gyorgy

Lighting of foundries. Villamossag 9 no.8:242-248 Ag '61.

1. Orszagos Villamosenergia Felugyelet.

TURAN, Gyorgy

Adequate use of electric motors. Villamossag 10 no.2:57-58 F '62.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

TURAN, Gyorgy

"Technical and economical aspects of keeping cables with 5, and 6 kV nominal voltage in 10 kV operation." Reviewed by Gyorgy Turan. Villamossag 8 no.4:122 Ap '60.

1. "Villamossag" szerkesztoje.

OSZTROVSZKY, Gyorgy; Schiller, Janos; PALFI, Laszlo, okleveles villamosmernok; BOZSIK, Ferenc; GYORI, Attila, okleveles villamosmernok, foenergetikus; VARGA, Endre, okleveles gepeszmernok; TURAN, Gyorgy, okleveles gepeszmernok; SZENDY, Karoly, dr., fokonstruktor; KOVACS, Ferenc, okleveles villamosmernok; CSILY, Jeno, fodiszpecser; BEREZNAY, Frigyes, fomernok; PALOS, Ferenc, okleveles mernok; FILARSZKY, Zoltan, okleveles gepeszmernok; NEMETH, Imre, okleveles villasmosmernok, fomernok; ALPAR, Imre, okleveles gepeszmernok, foenergetikus; GATI, Geza, okleveles villamosmernok; BEKE, Gyula, okleveles gepeszmernok; VISNYOVSZKY, Endre, foeloado; VERKITS, Gyorgy, okleveles villamosmernok, fomernok; FUTO, Istvan, oklevels gepeszmernok; NAGY, Karoly; PIKLER, Ferenc; SZEPESSY, Sandor, okleveles gepeszmernok; NADAY, Zoltan, okleveles gepeszmernok, fotechnologus; BUCHHOLCZ, Janos, okleveles gepeszmernok, fomernok

An account of the 11th itinerant meeting of the Hungarian Electrotechnical Association held in Pecs, July 18-20, 1963. Energia es atom 16 no.12:559 D '63.

(Continued on next card)

TURAN, Gyorgy

"Practical experiences with the iodine charged new light sources with quartz bulbs." Reviewed by Gyorgy Turan. Villamossag 8 no.4:123 Ap '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

TURAN, Gyorgy

"High lumen maintenance and easy starting of mercury lamps" by E. C. Wartt, K. Gottschalk and A.C. Green. Reviewed by Gyorgy Turan. Villamossag 8 no.1:30 Ja '60.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy

Preventing injuries from electricity. Villamossag 8 no.4:123 Ap '60.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy

The stimulator has again saved a life! Workshop experiences. Villamossag 11 no.8:255-256 Ag '63.

1. "Villamossag" szerkesztoje.

TURAN, Gyorgy

Start of single-phase supplied asynchronous motors. Villamossag 11 no.7:214-216 Jl '63.

1. "Villamossag" szerkesztoje.

CSASZAR, Akos; FRIED, Ervin; FUCHS, Laszlo; HAJOS, Gyorgy; RENYI, Alfred; TURAN, Pal

Report on the 1962 Miklos Schweitzer Memorial Contest on Mathematics. Mat lapok 14 no. 3/4:346-371 '63.

1. Editorial board member, "Matematikai Lapok" (for Hajos and Renyi). 2. Managing editor, "Matematikai Lapok" (for Turan).

TURAN, Pal

Diophantine approximation and applied mathematics. Mat lapok 14 no. 3/4:264-275 '63.

1. Managing editor, "Matematikai Lapok."

SZUSZ, Peter, a matematikai tudomanyok doktora; ERDOS, P.; RENYI, Alfred; TURAN, Pal

Contribution to the metric theory of continued fractions. Mat kozl MTA 14 no.4:361-400 '64.

1. Editorial Board Member, "A Magyar Tudomanyos Akademia Matematikai es Fizikai Tudomanyok Osztalyanak Kozlemenyei" (for Renyi and Turan).

BALAZS, J. (Budapest); TURAN, Pal, Member, Hungarian Academy of Sciences (Budapest)

Notes on interpolation. VIII. (Mean convergence in infinite intervals). Acta mat Hung 12 no.3/4:469-474 '61.

1. Editorial Board Member, "Acta Mathematica Academiae Scientiarum Hungaricae." (for Turan)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

KNAPOWSKI, S. (Poznan); TURAN, P. (Budapest)

Further developments in the comparative prime-number theory. Pt. 1. Acta arithmetica 9 no.1:23-40 '64.

Source: Mathematical Reviews,

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

Assuming that [illegible] ... we have for the zeros,

$$|\ (s)| \leq 2^{3/2} (1 + |t_n|^{-1} B')$$

(over)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

where

$$F' = \max \ldots (\frac{1}{2}n)^{-1/2} \ldots,$$

$0 \leq \mu \leq (\frac{1}{2}n - 1)$. Further results deal with conditions on the coefficients [illegible] involving the reality of all zeros, [illegible] instance.

TURAN, PAUL

Mathematical Reviews
Vol. 14 No. 8
Sept. 1953
Analysis

8-10-54
LL

Turán, Paul. On a property of lacunary power-series. Acta Sci. Math. Szeged 14, 209–218 (1952).

Math
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5

The paper contains results on entire functions

$$f(z) = \sum_0^\infty a_n z^{\lambda_n}$$

with Fabry gaps ($n/\lambda_n \to 0$) related to those of Pólya and Sunyer i Balaguer [cf. Sunyer i Balaguer, Collectanea Math. 2, 129–174 (1949); these Rev. 12, 489]. For such functions and sufficiently large r the inequality

$$M(r)^{1+\epsilon} \leqq \{48\pi/(\beta-\alpha)\} M(2r)^{\epsilon} M(r, \alpha, \beta)$$

is established where $M(r, \alpha, \beta)$ is the maximum modulus of $f(z)$ on $|z| = r$ with $\alpha \leqq \arg z \leqq \beta$ and $M(r) = M(r, 0, 2\pi)$. A similar result for harmonic functions with lacunary Fourier series is obtained. The proof is novel and "elementary", exploiting an inequality previously given by the same author [these Rev. 9, 80]. *A. J. Macintyre.*

[illegible]
consists [illegible]
difficult "second problem" deals [illegible]
results are as follows. If $m \geqq 0$, then [illegible] there is an integer
ν $(m \leqq \nu \leqq m+k)$ such that

$$|f(\nu)| u^{-\nu} \geqq k^k (2e(m+k))^{-k} |a_1 + \cdots + a_k|;$$

and (iii) if, moreover, $U = |z_1| \geqq \cdots \geqq |z_k|$ then there is also
a ν $(m \leqq \nu \leqq m+k)$ [illegible]

$$|f(\nu)| U^{-\nu} \geqq k^k (24e^2(m+2k))^{-k} \min [illegible] |a_1 + \cdots + a_j|$$

Part II. §1 and §2. Generalization of inequalities of Littlewood [see Turán, [illegible] Soc. 21, 268–275 (1947)] [illegible]

... Rev. 9, 80] and S. Berns...
... §3. The real roots of ...
... trinomials with positive ...
... 1, 38–41 (1949); these ...
... terms for Dirichlet series ...
... 1947), Acta Sci. Math. ...
... Rev. 9, 276; 14, 758 ...
... Acad. Sci. Paris 224, ...
... §6. Approximations ...
... finite sums $\sum b_j h(x_j)$, where ...
... Leitoud, Mat. Sbornik ...
... the asymptotic behaviour ...
... differential equation ...
... differential equations §9 and ...
... Number Theorem [Acta M...
... 63, 155–166 (1950); these ...
... earlier proves ... a gener...
... analogous to his main ...
... theorems, assuming, however ...
... theses §11 and §12. The ...
... Izvestiya Akad. Nauk SSSR ...
... Rev. 9, ...] §14 Carlso...
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... these Rev. 13, 742 ...
... method which may lead to ...
... on the smallest prime ...
[see Linnik, Mat. Sbornik ...
these Rev. 6, 260]

The book can be read complete...
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Mathematical Reviews
Vol. 14 No. 11
Dec. 1953
Analysis

Turán, P. On a trigonometrical sum. Ann. Soc. Polon. Math. 25 (1952), 155–161 (1953).

The author gives two general theorems (the first is a corollary of the second), each of which contains the positivity of the sums (1) $\sum_{\nu=1}^{n} \nu^{-1} \sin \nu t$ on $(0, \pi)$. (I) If $\sum_{\nu=1}^{n} b_\nu \sin (2\nu-1)x > 0$ on $(0, \pi)$, then $\sum_{\nu=1}^{n} \nu^{-1} b_\nu \sin \nu x > 0$ also. (II) If a_ν are real numbers such that

$$(2) \qquad f(x) = \sum_{\nu=0}^{n} a_\nu \cos \nu x \geqq 0 \quad \text{and} \quad \sum_{\nu=1}^{n} a_\nu = 0,$$

then (3) $\sum_{\nu=1}^{n} \nu^{-1}(a_0 + a_1 + \cdots + a_{\nu-1}) \sin \nu x > 0$ on $(0, \pi)$. Theorem II is proved by a complex-variable method similar to that used by the author for (1) [J. London Math. Soc. 13, 278–282 (1938)]. Other results are that for $0 < x < \pi$ and $n \geqq 2$,

$$\sum_{\nu=1}^{n} \nu^{-1} \sin \nu x > 4 \sin^2 \tfrac{1}{2} x \left\{ \tan \frac{\pi - x}{2} - \frac{\pi - x}{2} \right\};$$

that if $\sum a_\nu = 0$ and $f(x)$ in (2) satisfies $|f(x)| \leqq M$, then $g(x)$ in (3) satisfies $|g(x)| \leqq M(\pi - x)/2$; and that if $f(\theta) = \sum b_\nu \sin \nu\theta$ is odd in $(0, 2\pi)$, convex in $(0, \pi)$, and $f(r, \theta) = \sum b_\nu r^\nu \sin \nu\theta$ is the corresponding harmonic function, then $\sum_{\nu=1}^{n} b_\nu r^\nu \sin \nu\theta \geqq 2f(r, \theta)$ in the upper half of the unit circle. *R. P. Boas, Jr.* (Evanston, Ill.).

TURAN, PAL

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1 - F/W

Turán, Pál. Some remarks on theory of functions and theory of series. Eötvös L. Tud.-Egy. Kiadv. Term.-Tud. Kar Évk. 1952-53, 5-13 (1954). (Hungarian)

The author discusses various problems and results on the theory of functions and summability. Among others he proves the following theorem. Let α be a complex number with $\Im(\alpha)\neq 0$; then there exists an analytic function $f(z)=\sum_{n=0}^{\infty} a_n z^n$ whose only singular point is at $z=1$, and for which

$$(*) \qquad \sum_{n=0}^{\infty} \frac{f^{(n)}(\alpha)}{n!} (1-\alpha)^n$$

diverges (i.e. the Taylor expansion around α diverges at $1-\alpha$). The author shows that $f(z)=e^{1/(z-1)}$ has the required property. He further asks if such an $f(z)$ exists if $-1<\alpha<0$? He remarks that if $0<\alpha<1$ then by a theorem of Hardy and Littlewood (*) converges (here we only have to assume that $f(z)$ is analytic for $|z|<1$)

P. Erdős (Haifa).

Turán Pál [illegible] On a problem [illegible] mathematics" [illegible] (Hungarian [illegible] Russian and English summaries)

A proof of the identity

$$\sum_{j=0}^{k}\binom{k}{j}^{2}\binom{n+2k-j}{2k}=\binom{n+k}{k}^{2}$$

is given which occurred without proof in a book of the Chinese mathematician [illegible]

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

Turán, Pál. The life and math...

TURÁN, P.

4

Erdös, P., and Turán, P. On the role of the Lebesgue functions in the theory of the Lagrange interpolation. Acta Math. Acad. Sci. Hungar. 6, 47–66 (1955). (Russian summary) 1-F/W

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HS

Let $A=(x_{\nu n})$ ($\nu=1, 2, \cdots, n$; $n=1, 2, \cdots$) be a triangular matrix of interpolation points where $-1\leq x_{\nu n}\leq 1$ and all $x_{\nu n}$ in one row are distinct. Let $f(x)$ be continuous; we form the polynomials

$$L_n(f)=\sum_{\nu=1}^{n} f(x_{\nu n})l_{\nu n}(x),$$

where $l_{\nu n}(x)$ denote the fundamental polynomials of the Lagrange interpolation. The authors investigate the following important class $A(\beta)$ of matrices A. There exists a number β, $0<\beta<1$, such that for the "Lebesgue constants" $M_n=\max_{-1\leq x\leq 1}|l_{\nu n}(x)|$ the following inequalities hold:

$$\limsup_{n\to\infty} M_n n^{-\beta-\epsilon}<c_1(\epsilon), \quad \limsup_{n\to\infty} M_n n^{-\beta+\epsilon}>c_2(\epsilon),$$

(over)

(1)

Erdös P., and Turán, P.

4

where $c_1(\varepsilon)$, $c_2(\varepsilon)$ are positive constants. The following results are obtained. (a) Let $\mu<\beta/(\beta+2)$; there exists an $f(x) \in \mathrm{Lip}\,\gamma$ such that $L_n(f)$ is unbounded in $[-1, 1]$ as $n\to\infty$. (b) Let $\gamma>\beta$, $f(x) \in \mathrm{Lip}\,\gamma$; then the sequence $L_n(f)$ is uniformly convergent in $[-1, 1]$. (c) Let $\gamma>\beta/(\beta+2)$; there exists a special matrix $A \in A(\beta)$ such that the corresponding $L_n(f)$ converge uniformly in $[-1, 1]$ whenever $f(x) \in \mathrm{Lip}\,\gamma$. (d) Let $\gamma<\beta$; there exists a special matrix $A \in A(\beta)$ and a special $f(x) \in \mathrm{Lip}\,\gamma$ such that $L_n(f)$ is unbounded in $[-1, 1]$. *G. Szegö* (Stanford, Calif.).

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gH

TURAN, P. -Matematikai Lapok-Vol. 6, no. 1, 1955.

Tenth Anniversary of our liberation. p. 1.
Life and mathematical work of Geza Grunwald. p. 6

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. 9, Sept. 1955
Uncl.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

TURAN, P.

On some new theorems in the theory of diophantine approximations. p. 241
Vol. 6, no. 3/4, 1955

so. EAST EUROPEAN ACCESSIONS LIST Vol. 5, no. 7, July 1956

TURAN, P.

On the instability of systems of differential equations. In English. p. 257
Vol. 6, no. 3/4, 1955

SO. EAST EUROPEAN ACCESSIONS LIST Vol. 5, no. 7, July 1956

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757510012-2"

TURAN, P.

TURAN, P. Distribution of "digits" of the "factorial" numberical system. p. 71.

Vol. 7, no. 1/2, 1956
MATEMATIKAI LAPOK
SCIENCE
HUNGARY

So: East Europeon Accessions, Vol. 5, No. 9, Sept. 1956

TURAN, P.

Remark on the preceding paper of J. W. S. Cassels; application to approximative solution of algebraic equations. In English. p.291.
(Acta Mathematica, Vol. 7, no. 3/4, 1956, Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 9, Sept. 1957. Uncl.

TURAN, Paul.

2

Turán, Paul. Remark on the theory of quasianalytic function-classes. Magyar Tud. Akad. Mat. Kutató Int. Közl. 1 (1956), 481–487 (1957). (Hungarian and Russian summaries)

L'auteur considère la quasi-analyticité dans le sens du
reviewer. Une classe de fonctions localement inté-
grables L est quasi-analytique (α) dans ce sens, si deux
fonctions $f_1(x)$ et $f_2(x)$ de cette classe satisfaisant à la relation
lim $\inf_{h\to+0} \exp(h^{-\alpha}) \int_{x_1-h}^{x_1} |f_1(x)-f_2(x)|dx<\infty$ sont né-
cessairement égales p.p. Il y a quelques années l'auteur
[voir par ex. "Eine neue Methode in der Analysis und deren
Anwendungen", Akadémiai Kiadó, Budapest, 1953; MR
15, 688] a pu, en utilisant ses méthodes d'évaluation du
maximum d'un polynome trigonométrique par son maxi-
mum sur un sous-intervalle, introduire un nouveau cri-
tère d'une telle quasi-analyticité. Tandis que le reviewer
caractérise une telle quasi-analyticité par la "lacunarité"
de la série de Fourier [Séries de Fourier et classes quasi-
analytiques, Gauthier-Villars, Paris, 1935], procédé géné-
ralisé par B. Ya. Levin pour les fonctions presque-pé-
riodiques [Doklady Akad. Nauk SSSR (N.S.) 65 (1949),
605–608; MR 11, 23], l'auteur caractérise la classe par

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Turan, Paul. Remark on the theory of Quasi-analytic function-classes

2

(1) $$f(x)=\sum_{1}^{\infty} a_j \exp(it_j x),$$

(2) $$\limsup_{\omega\to+\infty} \exp(2\alpha^{-1}\omega \log \omega) \sum_{j>\omega} |a_j| < \infty.$$

L'auteur a démontré que si

(3) $$\liminf_{h\to+0} \exp(h^{-\alpha}) \max_{x_0-h\leq x\leq x_0} |f_1(x)-f_2(x)| < \infty,$$

f_1 et f_2 appartenant à la classe, alors $f_1 \equiv f_2$ p.p. L'auteur cherche maintenant à démontrer que son résultat ne peut pas être beaucoup amélioré. Ainsi, la condition (2) ne peut pas être remplacée par la condition

(4) $$\limsup_{\omega\to+\infty} \exp(\omega^{1-\epsilon}) \sum_{j>\omega} |a_j| < \infty.$$

En effet, en posant $\beta=2[1/\epsilon]>\max(2, \alpha)$, β pair, la fonction $f(x)=\exp(-1/\sin^\beta x)$, tout en satisfaisant aux conditions (1), (4) et la relation $\liminf_{h\to+0} \exp(h^{-\alpha}) \max|f(x)| < \infty$, n'est pas identiquement nulle.

S. Mandelbrojt (Paris)

JW
2/2

Sm

3

1-F/III

1725:

Balázs, J.; and Turán, P. Notes on interpolation. III. Convergence. Acta Math. Acad. Sci. Hungar. 9 (1958), 195–214.

This investigation is a contribution to "lacunary" interpolation. If the interpolation points are $x_\nu = x_{\nu n}$, $\nu = 1, 2, \cdots, n$, we form the polynomials

$$R_n(x) = \sum_{\nu=1}^{n} \alpha_\nu r_\nu(x) + \sum_{\nu=1}^{n} \beta_\nu \rho_\nu(x)$$

of degree $2n-1$ for which $R_n(x_\nu) = \alpha_\nu$ and $R_n''(x_\nu) = \beta_\nu$ are prescribed. The "fundamental polynomials" $r_\nu(x)$, $\rho_\nu(x)$ are uniquely determined. The authors investigate the particular case when the $x_{\nu n}$ are the zeros of $(1-x^2) \times P_{n-1}'(x)$, P_n Legendre's polynomial, and study the convergence of $R_n(x)$, $n \to \infty$, associated with a given function $f(x)$, $\alpha_\nu = f(x_{\nu n})$, β_ν given constants. The following two principal results are obtained. Let $f'(x)$ be continuous with modulus $\omega(\delta)$ such that $\int t^{-1}\omega(t)dt < \infty$. Let $n^{-1}\max_{(\nu)} |\beta_{\nu n}| \to 0$ as $n \to \infty$. Then $R_n(x) \to f(x)$ uniformly in $-1 \leq x \leq 1$. Let $0 < \varepsilon < 1$ be given; there exists $F(x) \in \mathrm{Lip}(1-\varepsilon)$ such that the associated polynomials $R_n(x)$ (even for $\beta_{\nu n} = 0$) are unbounded for $x = 0$.

G. Szegö (Stanford, Calif.)

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TURAN, P.; BALAZS, J.

Notes on interpolation. IV. Inequalities. p. 243.

ACTA MATHEMATICA. (Magyar Tudomanyos Akademia) Budapest, Hungary. Vol. 9, no. 3/4, 1958.

Monthly list of East European Accessions, (EEAI) LC, Vol. 9, No. 1, 1960.
Uncl.

TURAN, P.; EGERVARY, E.

Notes on interpolation. V. On the stability of interpolation. p. 259.

ACTA MATHEMATICA. (Magyar Tudomanyos Akademia) Budapest, Hungary, Vol. 9, no. 3/4, 1958.

Monthly list of East European Accessions, (EEAI) LC, Vol. 9, no. 1, 1960.

Uncl.

TURAN, P.

A remark concerning the behavior of a power series on the periphery of its convergence circle, In English. p. 19.

Srpska akademija nauka. Matematicki institut. PUBLICATIONS. Beograd, Yugoslavia. Vol. 12, 1958

Monthly list of East European Accessions (EEAI) LC, Vol, 8, no. 8, Aug., 1959.

Uncl.

TURAN, P.

16(1) PHASE I BOOK EXPLOITATION SOV/2660

Vsesoyuznyy matematicheskiy s"yezd. 3rd, Moscow, 1956

Trudy. t. 4: Kratkoye soderzhaniye sektsionnykh dokladov. Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow. vol. 4: Summary of Sectional Reports. Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959. 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Ed.: G.N. Shevchenko; Editorial Board: A.A. Abramov, V.G. Boltyanskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshkis, S.M. Nikol'skiy (Resp. Ed.), A.G. Postnikov, Yu. V. Prokhorov, K.A. Rybnikov, P. L. Ul'yanov, V.A. Uspenskiy, N.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

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TURAN, P.; REDEI, L.

Data on the theory of algebraic equations of finite bodies. p. 223.

ACTA ARITHMETICA. (Polska Akademia Nauk. Instytut Matematyczny) Warszawa, Poland. Vol. 5, no. 2, 1959

Monthly List of East European Accessions (EEAI) Lc, Vol. 9, no. 2, Feb. 1960

Uncl.

TURAN, Pal

Lipot Fejer (1880-1959); an obituary. Magy.tud. 66 no.12:653-654 D '59. (EEAI 9:4)
(Fejer, Lipot) (Mathematicians, Hungarian)

TURAN, P.

Lipót Fejér; obituary. Usp. mat. nauk 15 no.4:11-122 Jl-Ag '60.
(MIRA 13:9)

(Fejér, Lipót, 1880-1959)

ALPAR, Laszlo; TURAN, Pal

Data on the value distribution of an entire function. Mat kut kozl MTA 6 no.1/2:157-164 '61.

(Functions) (Distribution(Probability theory))

TURAN, Pal

On a density theorem of Yu.V.Linnik. Mat kut kozl MTA 6 no.1/2: 165-179 '61.

(Linnik, Iurii Vladimirovich) (Functions)
(Numbers, Theory of)

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AUTHOR: Turán, P.

TITLE: A remark on Hermite-Fejér interpolation

PERIODICAL: Referativnyy zhurnal, Matematika, no. 11, 1962, 19, abstract 11B88 (Ann. Univ. scient. budapest. Sec. math., 1960 - 1961, v. 3 - 4, 369 - 377; English)

TEXT: The author considers the Hermite interpolation polynomial

$$H_n(f) = \sum_{\nu=1}^{n} f(x_{\nu n})\, h_{\nu n}(x) + \sum_{\nu=1}^{n} y'_{\nu n}\, \varsigma_{\nu n}(x),$$

$$h_{\nu n}(x) = \left\{1 - \frac{\omega''_n(x_{\nu n})}{\omega'_n(x_{\nu n})}(x - x_{\nu n})\right\} l^2_{\nu n}(x),$$

$$\varsigma_{\nu n}(x) = (x - x_{\nu n})\, l^2_{\nu n}(x),$$

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A remark on Hermite-Fejér interpolation

$$l_{\nu n}(x) = \frac{\omega_n(x)}{\omega'_n(x_{\nu n})(x - x_{\nu n})}, \quad \omega_n(x) = \prod_{\nu=1}^{n}(x - x_{\nu n}),$$

$$(\nu = 1, 2, \ldots, n; \quad n = 1, 2, \ldots)$$

of the degree $\leq 2n-1$, where $-1 \leq x_{nn} < \ldots < x_{1n} \leq 1$. As had been shown by L. Fejér, in the case of Chebyshev abscissae, we have $\lim_{n\to\infty} H_n(f) = f(x)$ uniformly for every function $f(x) \in C[-1, +1]$ (i.e., continuous on $[-1, +1]$), provided only $y'_{\nu n} = o\left(\frac{n}{\lg n}\right)$. The author investigates the behavior of the polynomial $H^*_{\nu(n), n}(f)$ of degree $\leq 2n - 2$, coinciding with $f(x)$ at the points $x = \eta_1, \eta_2, \ldots, \eta_n$, where

$$\left\{\frac{dH^*_{\nu(n), n}(f)}{dx}\right\}_{x=\eta_i} = y'_{in}$$

for $1 \leq i \leq n$, except for $i = \nu(n)$. In the case of Chebyshev abscissae, if for all $n = 1, 2, \ldots$ the exceptional point $\eta_{\nu(n)}$ lies in the interval $[-1 + \varepsilon,$

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A remark on Hermite-Fejér interpolation

$1 - \varepsilon]$, $0 < \varepsilon \leq \frac{1}{4}$, and if $y'_{in} = 0$, $i \neq \nu(n)$, then the condition

$$\int_{-1}^{1} \frac{f(x)\,dx}{\sqrt{1 - x^2}} = 0 \qquad (1)$$

is necessary and sufficient for uniform convergence

$$\lim_{n \to \infty} H^*_{\nu(n),\, n}(f) = f(x), \quad -1 \leq x \leq +1, \quad f(x) \in C[-1, +1];$$

now, if the exceptional point lies sufficiently close to the point $x_0 = \cos\frac{\pi}{5}$, then the corresponding interpolation polynomials are uniformly bounded if, and only if, the function $f(x)$ is bounded on $[-1, +1]$, where it is always possible to choose a function $f_1(x) \in C$, for which the limit $\lim_{n \to \infty} H^*_{\nu(n),\, n}(f)$ does not exist at the point x_0. If the points are roots of the polynomial $\int_{-1}^{x} P_{n-1}(t)\,dt$, where $P_{n-1}(t)$ is a Legendre polynomial normed by the condition $P_{n-1}(1) = 1$, then under the same conditions relative to the exceptional point we have instead

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A remark on Hermite-Fejér interpolation S/044/62/000/011/010/064 A060/A000

of (1) the condition $f(-1) = f(+1)$ as the necessary and sufficient condition for the uniform convergence of $\lim_{n\to\infty} H^{*}_{\nu(n),\, n}(f) = f(x)$ on the interval $[-1 + \delta,\ 1 - \delta]$, $0 < \delta \leq \frac{1}{2}$ for $f(x) \in C$.

Ya.L. Geronimus

[Abstracter's note: Complete translation]

Card 4/4

ERDOS, P. (Budapest); TURAN, P., acad. (Budapest)

An extremal problem in the theory of interpolation. Acta mat Hung 12 no.1/2:221-234 '61. (EEAI 10:9)

1. Corresponding member of the Hungarian Academy of Sciences (for Erdos). 2. Hungarian Academy of Sciences (for Turan).

(Interpolation) (Polynomials)

HAJOS, Gyorgy; KALMAR, Laszlo; SURANYI, Janos; TURAN, Pal; POSA, Lajos; DE BRUJIN, N.G.(Amsterdam, Holland); SARKADI, Karoly; FRIED, Ervin; WIEGANDT, Richard; ERDOS, Pal

Mathematical problems. Mat lapok 12 no.3/4:253-258 '61.

1."Matematikai Lapok" szerkesztoje (for Hajos and Kalmar).
2."Matematikai Lapok" felelos szerkesztoje (for Turan).

TURAN, Pal, Member of the Hungarian Academy of Sciences

On some further one-sided theorems of new type in the theory of diophantine approximations. Acta mat Hung 12 no.3/4:455-468 '61.

1. Editorial Board Member, "Acta Mathematica Academiae Scientiarum Hungaricae."

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AUTHOR: Balázs, J., Turán, P.

TITLE: Notes on interpolation. VIII (Mean convergence in infinite intervals)

PERIODICAL: Referativnyy zhurnal, Matematika, no. 11, 1962, 19 - 20, abstract 11B89 (Acta math. Acad. scient. hung., 1961, v. 12, no. 3 - 4, 469 - 474; English; summary in Russian)

TEXT: For part VII see RZhMat, 1960, 5130. Say a triangular matrix of interpolation points $A = \| x_{kn} \|$, $k = 1, 2, \ldots, n$; $n = 1, 2, 3, \ldots$ is composed of the roots x_{kn} $(k = 1, 2, \ldots, n)$ of the orthogonal polynomials $q_n(x)$ $(n = 1, 2, 3, \ldots)$ corresponding to some differential weight $p(x)$ on the infinite interval $(-\infty, +\infty)$, so that $\int_{-\infty}^{+\infty} q_m(x) q_n(x) p(x) dx = 0$ for $m \neq n$. For the points x_{kn} situated in every column of the matrix A, a Lagrange interpolation polynomial $L_n(f, x)$ of the function $f(x)$ is constructed. It is required to find the conditions under which the sequence of interpolation polynomials $L_n(f, x)$ converges "in the mean" to the function $f(x)$, i.e.,

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$$\int_{-\infty}^{+\infty} \{f(x) - L_n(f, x)\}^2 p(x)\, dx \to 0$$

for $n \to \infty$. Theorem: Let the differential weight $p(x)$ satisfy the following conditions: $p(x) = \frac{h(x)}{g(x)}$, where the function $h(x) \geqslant 0$ and is integrable on the entire x axis, and the function $g(x)$ is even and has derivatives of all orders, where $g^{(2\nu)}(x) > 0$, $\nu = 0, 1, 2, \ldots,$ for any x; moreover, for $x > 0$ the function $\ln g(x)$ is a convex function of $\ln x$ and

$$\int_{0}^{+\infty} \frac{\ln g(x)}{x^2}\, dx = +\infty .$$

If the function $f(x)$ is continuous on the entire axis, and

$$\lim_{x \to \pm\infty} \frac{f(x)}{\sqrt{g(x)}} = 0, \quad \text{then} \quad \lim_{n \to \infty} \int_{-\infty}^{+\infty} \{f(x) - L_n(f, x)\}^2 p(x)\, dx = 0 .$$

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Corrolary: If the matrix A is composed of the roots of the Hermite polynomials $H_n(x)$, then for every function $f(x)$ continuous on the whole axis, and satisfying

$$\lim_{x \to \pm\infty} f(x)\, e^{-\left(\frac{1}{2} - \varepsilon\right) x^2} = 0$$

(where $\varepsilon > 0$ is an arbitrarily small number), the condition

$$\lim_{n \to \infty} \int_{-\infty}^{+\infty} \{f(x) - L_n(f, x)\}^2 e^{-x^2} dx = 0$$

is fulfilled.

V.F. Nikolayev

[Abstracter's note: Complete translation]

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